

ABSTRACT

To provide DNA comprising mutant FRT sequence which causes recombination reaction between two mutant FRT sequences having an identical sequence to each other but does not cause recombination reaction with a wild-type FRT sequence, in the presence of FLP recombinase; and a method for performing high-efficiency, gene insertion or gene replacement. A DNA comprising a mutant FRT sequence (any one of SEQ ID NOs: 2 to 5); a DNA comprising a mutant FRT sequence possessing (A) causing no specific DNA recombination reaction with wild type FRT, even if FLP recombinase is present, and (B) causing specific DNA recombination reaction with another mutant FRT sequence having an identical sequence thereto in the presence of recombinase FLP, wherein the mutant FRT sequence has substitutions of at least one nucleotide in a region other than the spacer region in the sequence; a cell which is transformed with the DNA; gene replacement method using the DNA in the presence of recombinase FLP; a transgenic animal carrying the DNA in a chromosome; a pharmaceutical comprising the DNA; and a specific DNA recombination method, characterized in that a specific DNA recombination reaction is carried out by using two mutant FRT sequences (SEQ ID NO: 32) in the presence of recombinase FLP.